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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,982

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Stephan Karl Barsun

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

BUI, HUNG S

ART UNIT

PAPER NUMBER

2841

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/758,982

Applicant(s)

BARSUN ET AL.

Examiner

Hung S. Bui

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) 7-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 3-6 and 11-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 3, applicant should clarify the specific structure of "a first portion of functionality", in line 6, applicant should clarify the specific structure of "a second portion of functionality" and in line 12, applicant should clarify the specific structure of "a flexibly designed configuration."

In claim 11, line 5, applicant should clarify the specific structure of "a portion of functionality" and in line 7, applicant should clarify the specific structure of "a flexibly designed configuration." From the figure 1a and specification, it appears that the connector 173 being a flexible connector.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-6 and 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinman et al. [US 6,625,035] in view of Liu [US 6,511,139].

Regarding claims 1 and 6, as best understood, Steinman et al. disclose a multi stage mounting printed circuit board (figure 2), comprising:

- a first printed circuit board (802) having a first portion of functionality (816), the first printed circuit board coupled to a pair of guides (810 and a middle guide as shown in figure 8);
- a second printed circuit board (804) having a second portion of functionality (818), the second printed circuit board coupled to the pair of guides (figure 8);
- a printed circuit board interface for coupling to the first printed circuit board to the second printed circuit board; and
- a plurality of printed circuit board extractors (824, 832 and 834) coupled to the first printed circuit board and the second printed circuit board, the plurality of printed circuit board extractors for coupling the first printed circuit board to a pair of card guides (810, figure 8).

Steinman et al. disclose the instant claimed invention except for the printed circuit board interface being flexible.

Liu discloses a first printed circuit board (being enclosed in a module 40, figure 2) having a portion of functionality (41) contacted with a second printed circuit board (being enclosed in a module 30, figure 2) through a flexible cable (34, figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flexible cable design between two connectors of the first and second printed circuit boards of Steinman et al., as suggested by Liu, for the

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purpose of protecting contact pins of the connector to be damaged when the first printed circuit board inserts directly to connect to the second printed circuit board.

Regarding claim 3, Steinman et al., as modified, disclose wherein the plurality of printed circuit board extractors include a mechanical advantage mechanism for providing a mechanical advantage for securing the first printed circuit board in place in the card guides (figure 8).

Regarding claim 4, Steinman et al., as modified, disclose wherein the plurality of printed circuit board extractors include a locking mechanism for locking the first printed circuit board in place in the card guides (figure 8).

Regarding claim 5, Steinman et al., as modified, further disclose wherein one of the plurality of printed circuit board extractors include:

- a pivot point for permitting the one of the plurality of printed circuit board extractors to pivot;
- a leverage arm leverage arm for driving the printed circuit board about the pivot point; and
- a latch slot for grabbing a lip on the one of the card guides (figures 8-9).

Regarding claim 11, Steinman et al., as modified, disclose a multi stage printed circuit board mounting system (as described in claim 1) being connected to a back plane (314, figure 3).

Regarding claim 12, Steinman et al., as modified, disclose the plurality of multi stage mounting printed circuit boards are mounted in the plurality of card guides (figure 8).

Regarding claims 13-14, Steinman et al., as modified, disclose one of the plurality of multi stage mounting printed circuit boards is removable separate from another one in an electronic system (figures 1, 3 and 10a).

Regarding claim 15, Steinman et al., as modified, disclose wherein each one of the plurality of multi stage mounting printed circuit boards includes: a first printed circuit board (804) for mounting electrical components (figure 8) on; a first printed circuit board interface component (818) coupled to the first printed circuit board; and the first printed circuit board interface component for communicatively coupling the first printed board to a second printed board (802) via a second printed circuit board interface component (816); and a plurality of printed circuit board extractors (832, 834) coupled to the first printed circuit board, the plurality of printed circuit board extractors for coupling the first printed circuit board to a single pair of card guides (810, figure 8).

Regarding claim 16, Steinman et al., as modified, disclose wherein the plurality of printed circuit board extractors include a mechanical advantage mechanism for providing a mechanical advantage for securing the first printed circuit board in place in the card guides (figure 8).

Regarding claims 17 and 20, Steinman et al., as modified, disclose wherein the leverage mechanism grabs a lip on the chassis to provide force for inserting/extracting the each respective one of the plurality of multi state mounting printed circuit boards into or out of the chassis (figures 2-3).

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Regarding claim 18, Steinman et al., as modified, disclose wherein the plurality of printed circuit board extractors include a locking mechanism for locking the first printed circuit board in place in the card guides (figure 8).

Regarding claim 19, Steinman et al., as modified, further disclose wherein one of the plurality of printed circuit board extractors include:

- a pivot point for permitting the one of the plurality of printed circuit board extractors to pivot;
- a leverage arm leverage arm for driving the printed circuit board about the pivot point; and
- a latch slot for grabbing a lip on the one of a guides of the chassis (figures 2-3 and 8-9).

Response to Arguments

5. Applicant's arguments with respect to claims 1, 3-6 and 11-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S. Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11/20/06
Hung Bui
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Tuan Dinh